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Notes on some South African Ancillinae with descriptions of five new species of *Amalda* (Mollusca: Gastropoda: Olividae)

by

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ABSTRACT

New species: *Amalda lindae*, *A. cupedula*, *A. telaaraneae*, *A. whatmoughi*, *A. scopuloceti*.

New synonymy: *Ancillaria fasciata* Reeve, 1864, is a junior secondary homonym of *Ancilla fasciata* Perry, 1811, and *Ancilla ordinaria* E. A. Smith, 1906, must be utilised in its stead. *Ancilla capensis* Gray, 1865 = *Amalda obesa* (Sowerby, 1859). *Ancilla errorum* Tomlin, 1921 = *Ancillaria [= Amalda] angustata* Sowerby, 1859.

Lectotype designations: *Ancilla ordinaria* E. A. Smith, 1906; *Ancilla capensis* Gray, 1865.

New distribution data: *Ancilla sarda* (Reeve, 1864) is recorded for the first time from South Africa and the Mascarene Islands. Distribution of *A. rouillardi* Kilburn, 1981, is defined with more precision. *Amalda trachyzonus* Kilburn, 1975, appears to be restricted to the East London area. The range of *Amalda obesa* (Sowerby, 1859) is extended as far west as False Bay, with an apparently isolated population in southern Mozambique. The genus *Ancillista* Iredale, 1936, is recorded from South Africa for the first time.

New combination: *Ancillaria hasta* von Martens, 1902, is referred to the genus *Ancillista* Iredale, 1936.

Type locality: The type locality of *Ancilla errorum* Tomlin, 1921, erroneously given as 'Cape Point, 42 fathoms', is corrected to off Walker Point, 47 fathoms [= 86 m].

INTRODUCTION

Since publication of my 1981 monograph of the genus *Ancilla* Lamarck, 1799, further data on several of the southern African species have become available. In addition, I use this opportunity to describe five new species of the genus *Amalda* H. & A. Adams, 1853, mainly collected during the Natal Museum's dredging programme, and to give taxonomic notes on several other species. Terminology follows Kilburn (1977: Fig. 1).

ABBREVIATIONS

a/l = ratio of aperture length (measured along main shell axis) to total shell length.
b/h = ratio of maximum protoconch breadth to its height.
l/h = ratio of shell breadth to total length.
BMNH = The Natural History Museum, London.
NMSA = Natal Museum, Pietermaritzburg.
NMDP = Natal Museum Dredging Programme.
SAMC = South African Museum, Cape Town.
ZMHB = Zoological Museum, Humboldt University, Berlin.

TAXONOMY

Ancilla Lamarck, 1799

Ancilla Lamarck, 1799: 70. Type species *Ancilla cinnamomea* Lamarck, 1801 [ICZN Opinion 579].

Ancilla (Sparella) sarda (Reeve, 1864)

Ancilla (Sparella) sarda; Kilburn, 1981: 442 (references), Figs 61, 221, 225–227, 230, 233–235.

Distribution: 'East Africa, from Somalia to southern Mozambique and Madagascar, and the islands of the Comores and Seychelles.' (Kilburn 1981). Here extended to northern Zululand and the Mascarene Islands.

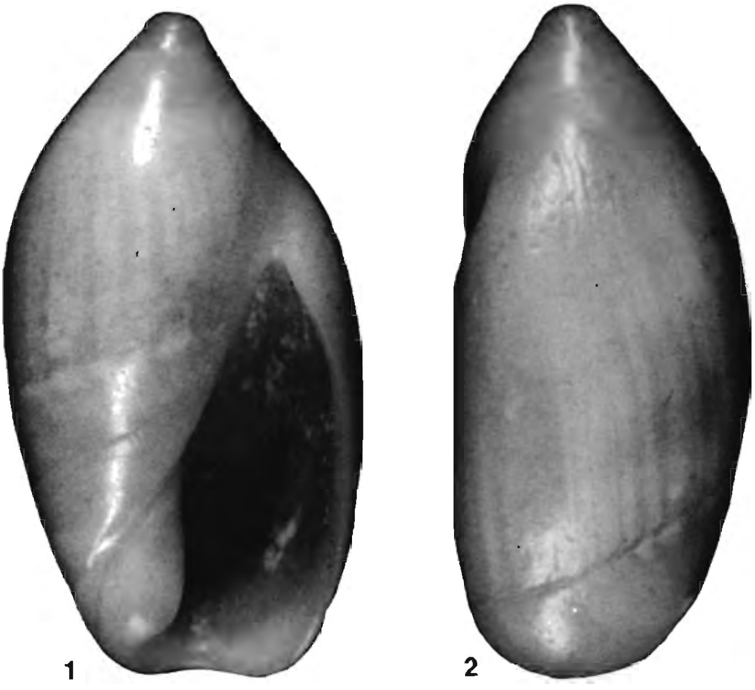
Additional locality data: ZULULAND: between Bhanga Nek and Kosi Bay, algal reef in 5–9 m, and sand pockets on reef in 10–12 m, living (NMSA S2489, S1453: D. Herbert). RÉUNION ISLAND: 45 m, on sand (NMSA K1537: J. Drivas).

Notes: This species is recorded from South Africa for the first time. Zululand specimens resemble those from Mozambique, but material from Réunion represents the pale insular form (see discussion of variability in Kilburn (1981)).

Ancilla (Sparella) ordinaria E. A. Smith, 1906 (**stat. rev.**)

Figs 1–4

Ancillaria fasciata Reeve, 1864: pl. 9, sp. 44 (*non Ancilla fasciata* Perry, 1811). Type locality unknown.
Ancilla ordinaria E. A. Smith, 1906: 27, pl. 7, fig. 4. Type locality: Port Shepstone, Natal.
Ancilla (Sparella) fasciata; Kilburn, 1981: 401, Figs 55, 139–142, 146, 151–152.
Ancilla agulhasensis Thiele, 1925: 157 (191), pl. 33 (21), fig. 17. Type locality: Agulhas Bank, 35°16'0"S: 22°26'7"E.



Figs 1–2. *Ancilla ordinaria* E. A. Smith, 1906: lectotype, BMNH 1906.6.251, 12,7 x 6,9 mm.

Type material (see also Kilburn 1981): Two worn syntypes in BMNH 1906.6.25-26, J. H. Ponsonby colln, *ex* H. Burnup. Of these, the fresher shell, which measures 12,7 x 6,9 mm and is tinged with yellowish, is here designated as lectotype (Figs 1–2).

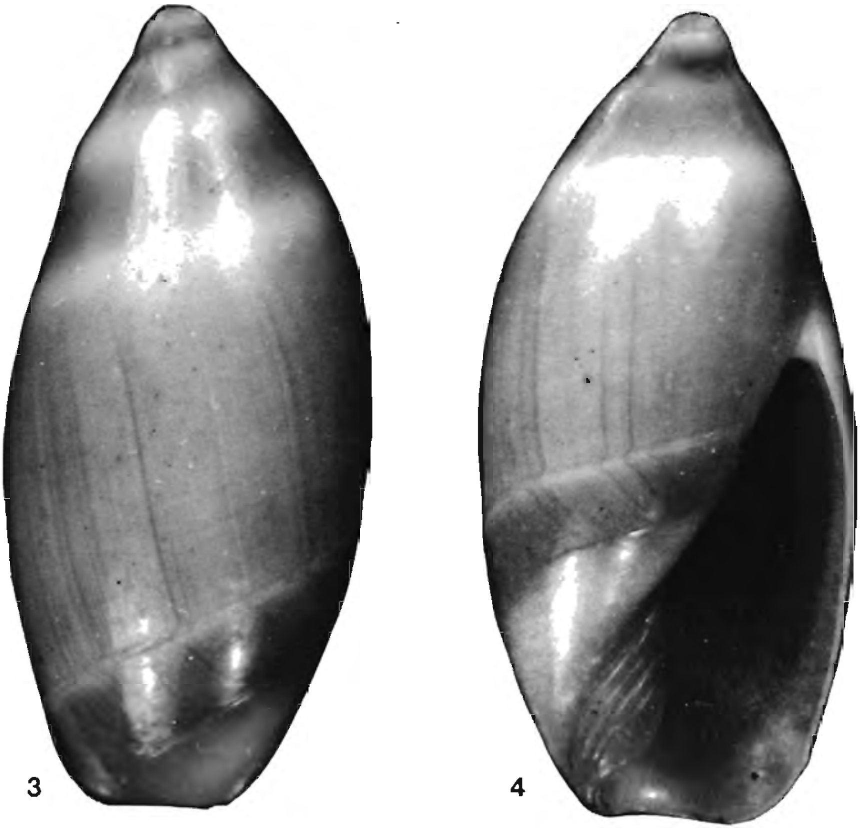
Notes: *Ancillaria fasciata* Reeve, 1864, is a secondary junior homonym of *Ancilla fasciata* Perry, 1811, and the next available name, *Ancilla ordinaria* Smith, 1906, must be used. *A. fasciata* Perry (1811: pl. 31, fig. 2) appears to have been based on a species of *Bullia* (Nassariidae), but, like so many of the taxa described by Perry, is unrecognisable with certainty. I also illustrate here (Figs 3–4) the holotype of *Ancilla agulhasensis* (ZMHB), by courtesy of Dr R. Kilias.

Ancilla (Sparella) rouillardi Kilburn, 1981

Ancilla (Sparella) rouillardi Kilburn, 1981: 381, Figs 6, 50, 87–88, 99, 104–105.

Distribution (redefined): Southern Zululand to off Durban, in 80–220 m on muddy sand.

Additional locality data (all NMSA): ZULULAND: off Matigulu River mouth, 200–220 m, mud, coarse sand, empty shell (E8993: NMDP). NATAL: off Tongaat



Figs 3–4. *Ancilla ordinaria* E. A. Smith, 1906: holotype of *Ancillaria agulhasensis* Thiele, 1925, ZMHB, 13,0 x 6,0 mm. Photograph courtesy of Dr R. Kilias.

Bluff, 100 m, sandy-mud, empty shell (S6: NMDP); off Umhlanga Rocks, 58 fathoms [= 106 m] (B6308: A. Connell); off Durban, 95 m. fine, slightly muddy sand, living and dead (D4086, D4087: NMDP); do, 80–90 m, grey sandy mud, one broken shell (D4176: NMDP); do, 130 m, sandstone gravel, some rocks, juveniles (D4247: NMDP); do, 52 fathoms [= 95 m], empty shells (D3466: A. Connell).

Notes: When I described this species, precise locality and depth data were available for only a single, fragmentary example. Eight additional samples with exact data have subsequently been obtained, mainly in the course of the Natal Museum dredging programme. This material shows little variation, save for the total absence of colour in one example.

Ancillista Iredale, 1936

Ancillista Iredale, 1936: 314. Type species (o. d.) *A. velesiana* Iredale, 1936.

Notes: The genus *Ancillista* is characterised by a combination of characters, namely the possession of a very large, posteriorly bifid foot, a generally light, fragile shell, a large protoconch, a barely calloused suture, a scarcely twisted, non-plicate columella pillar, a very shallow anterior fasciolar groove, the absence of an ancillid groove or band, and the presence of a small operculum and rather straight base to the rachidian plate of the radula. It contains four described species, of which two occur in Australian waters, namely *A. muscae* (Pilsbry, 1926) and *A. cingulata* (Sowerby, 1830) (the latter with an eastern subspecies *A. c. velesiana* Iredale, 1936), and the remainder in Mozambique (*A. fernandesi* and *A. aureocallosa* Kilburn & Jenner, 1977). A fifth, undescribed species allied to *cingulata* occurs in the Papua New Guinea/Indonesian area. To this number may apparently be added a single South African species, *Ancillaria hasta* von Martens, 1902. This agrees in basic shell characters with typical members of *Ancillista*, although possessing a columella pillar that is somewhat more strongly twisted and occasionally plicate, characters suggestive of the genus *Amalda*. Confirmation from anatomical characters is thus required.

Ancillista hasta (von Martens, 1902) **comb. n.**

Figs 5–6

Ancillaria hasta von Martens, 1902: 241; *idem*, 1904: 37, pl. 3, fig. 13. Type locality: Agulhas slope, 35°10'S: 23°2'E, 500 m.

Non: *Ancilla hasta*; Barnard, 1959: 69, Fig. 16 c; Kensley, 1973: 170, Fig. 634 [? = *Amalda bullioides* (Reeve, 1864)].

Description: Shell cylindric-fusiform, with broad base, large aperture, and very blunt apex; b/l 0,36–0,38, a/l 0,57–0,63; left side of body whorl moderately convex, right side rather straight, greatest width of body whorl at about its anterior third. Spire orthoconoid, whorls only very slightly convex and shallowly indented at suture, smooth; spire angle 33°–39°; primary callus very thin, glazing but not obliterating suture and leaving protoconch exposed, translucent, except at suture where there is a narrow opaque band, bordered anteriorly by a fine groove; surface of callus glossy, without trace of microshagreen sculpture; secondary callus forming a thin, ill-defined deposit in vicinity of insertion of posterior end of outer lip.

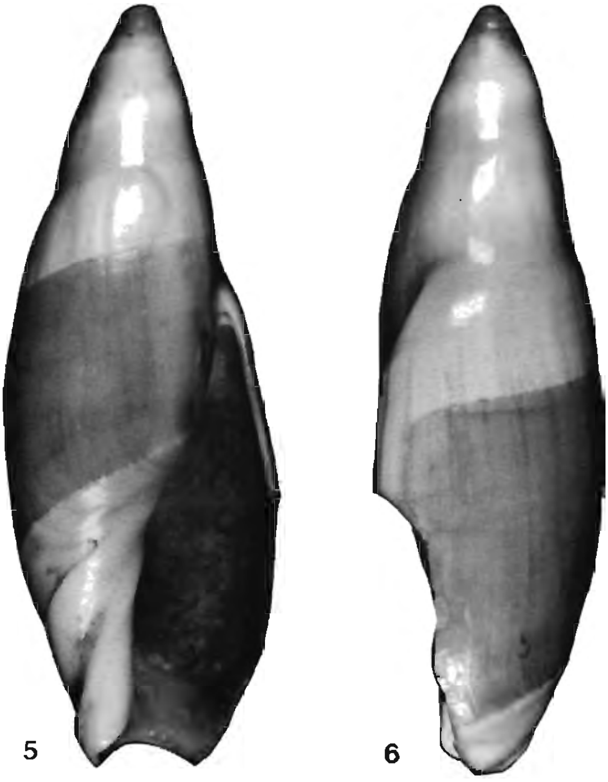
Aperture narrowly trigonal, acute posteriorly, greatest width at about anterior quarter, outer lip almost orthocline and rather flat in side-view, siphonal canal deeply and asymmetrically notched; inner lip concave anteriorly, convex in parietal region, where callus is very thin and translucent; edge of columella pillar (and sometimes anterior fasciolar band) forming an oblique pleat on mid inner lip; columella pillar fairly narrow, somewhat weakly twisted, edge rather straight, termination sharp, basal sinus widely and distinctly concave; columella pillar typically with only a single plica on outer margin, but up to 4 additional plicae may be present, surface faintly microshagreened. Anterior fasciolar groove wide and shallow, fasciolar bands flattened and slightly declivous, separated by a broad but shallow furrow, bands extremely finely microshagreened; no ancillid groove. Median zone of body whorl with fine growth lines.

Colour slightly translucent yellowish-white, anterior callus deposit and sutural band opaque white.

Protoconch narrowly domed, of about 2,4 whorls, breadth 2,6–2,7 mm.

Dimensions: 30 x 11 mm (von Martens); 23,3 x 8,9 mm.

Type material: Holotype (Figs 5–6) ZMHB.



Figs 5–6. *Ancillista hasta* (von Martens, 1902): holotype, ZMHB, 30,0 x 11,0 mm.

Material examined: AGULHAS BANK: general area of Cape St Blaize, *ex pisce* (NMSA B4499, B7108: R. Le Maitre).

Notes: This species differs greatly in form from all its congeners, save for *Ancillista muscae* (Pilsbry, 1902) of Western Australia, which is much larger, has distinct spiral sculpture on its spire whorls and a narrower, straighter columella pillar. The range of *A. hasta* evidently lies outside the areas sampled during the Natal Museum dredging programme, and only four specimens, all without precise locality data, are available. These agree well with the holotype. On the other hand, the material (SAMC A30767) identified as *hasta* by Barnard (illustrated by Kensley, 1973) differs widely from this species, and is more probably a form of the apparently variable *Amalda bullioides* (Reeve, 1864).

Amalda H. & A. Adams, 1853

Amalda H. & A. Adams, 1853: 148. Type species (s. d. Vokes 1939) *Ancillaria tankervillianus* Sow. [*sic*] = *Ancillaria tankervillii* Swainson, 1825.

I have not dealt with the better-known South African species, nor with the problematic *Amalda bullioides* (Reeve, 1864) species-complex, of which much more material is required. Nor have I utilised subgenera, as these have yet to be adequately defined.

Amalda angustata (Sowerby, 1859)

Figs 7–8

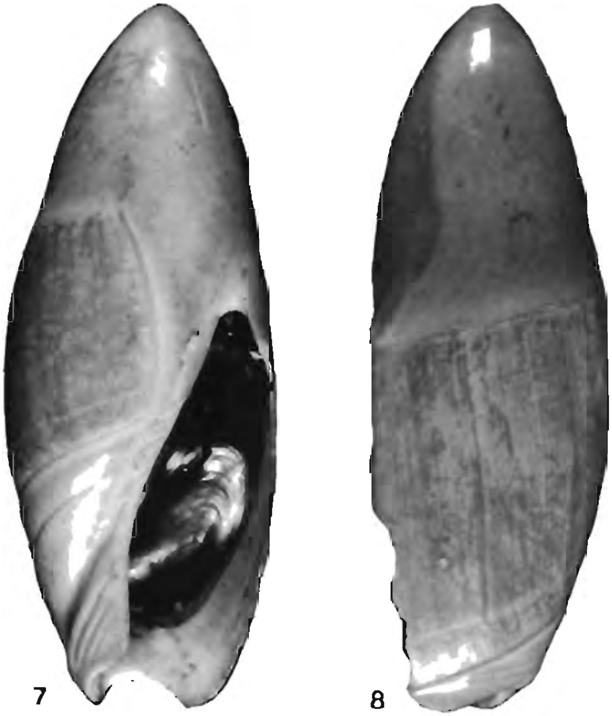
Ancillaria angustata Sowerby, 1859: 63, pl. 211, fig. 3; Reeve, 1864: pl. 11, sp. 45; Weinkauff, 1878: 38, pl. 12, figs 1, 3 (after Reeve); Sowerby, 1903: 229; Yen, 1942: 235, pl. 24, fig. 175 (holotype). Type locality: 'China Seas'.

Amalda angustata; Kaicher, 1982: card 3444 (holotype).

Ancilla errorum Tomlin, 1921: 216, pl. 8, fig. 2; Barnard, 1959: 68, Figs 15 j (radula), 16 d; Giles & Gosliner, 1983: 26 [**syn. n.**]. Type locality: 'Cape Point, 42 fathoms' [erroneous = off Walker Point, 47 fathoms].

Type material: Holotype of *Ancillaria angustata* is BMNH 197831, H. Cuming colln, figured by Yen (1942) and Kaicher (1982); dimensions 12,1 x 4,8 mm.

A. errorum: Data pertaining to the type material in the SAMC collection have been very kindly communicated to me by Ms Liz Hoenson, who consulted both the SAMC accession register and the *Pieter Faure* log books. From this it appears that most of the published information concerning this material is incorrect! Tomlin saw two specimens, one of which (SAMC 1811) was cited and labelled by him as the 'Type' and must be regarded as the holotype (Figs 7–8). The second specimen (SAMC A1816) can be regarded as a probable paratype although not mentioned in his description. The holotype was dredged 7 miles off Walker Point [near Knysna] in 47 fathoms [= 86 m], not 'Cape Point, 42 fathoms' as given by Tomlin. Giles & Gosliner (1983) erroneously give the type locality as off Walker *Bay* [west of Cape Agulhas] and that of the paratype as 'off Cape Point; 42 fm.', although SAMC A1816 actually bears the data 'Umhloti River mouth .... 25 fathoms'! The latter locality is far outside the range of the species, which occurs only on the Agulhas Bank and in False Bay (during the NMDP no trace of *A. angustata* was found in our extensive dredgings off Natal or Transkei, or even on the eastern fringe of the Agulhas Bank). Many similarly mislocalised molluscs occur amongst *Pieter Faure* material.



Figs 7–8. *Amalda angustata* (Sowerby, 1859): holotype of *Ancilla errorum* Tomlin, 1921, SAMC 1811, 13,6 x 5,4 mm.

Notes: Although Tomlin (1921: 216) compared his *errorum* with the holotype of *Ancillaria angustata*, the differences he cites are individual, not specific. The holotype of *angustata* agrees well with material from the western Agulhas Bank and False Bay, where it is locally common.

Amalda trachyzonus Kilburn, 1975

Amalda (Baryspira) trachyzonus Kilburn, 1975: 230, Figs 1, 4, 7. Type locality: Gonubie, near East London.

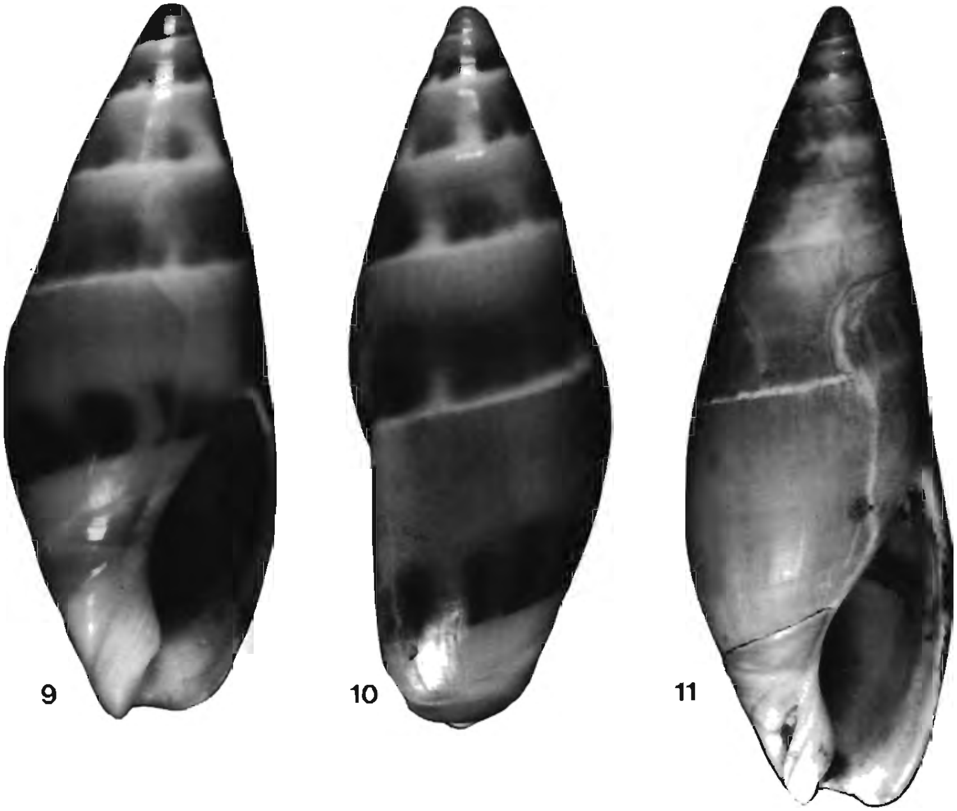
At the time of description, this species was known only from beach specimens collected at the type locality. Subsequently, a few additional specimens have been dredged, all in the East London area, to which its range is evidently restricted.

Additional locality data: S. E. of Bulugha River, 19 fathoms [35 metres], sand and broken shell (NMSA S3297: B. Bursey, dredged, living); off East London, 70 m, grey sandy mud, muddy sand (NMSA: NMDP, broken shells).

Amalda lindae sp. n.

Figs 9–12

Diagnosis: Shell more or less fusiform, b/l 0,36–0,43, a/l 0,44–0,48; spire more or less orthoconoid, spire angle 25°–49°, whorls generally flattened, although a callus



Figs 9–11. *Amalda lindae* sp. n.: 9–10, holotype NMSA C9760/T828, 20,7 x 8,3 mm; 11, paratype of deep-water form, NMSA C9733/T827, off Port Grosvenor, 300–330 m, 35,2 x 11,9 mm.

band at suture may project slightly, forming a slight angle at its anterior margin; primary spire callus a thin glaze, exposing protoconch, its surface faintly microshagreened in places, on anterior part of whorl sometimes with 2–4 weak spiral lirae: secondary callus forming a rather thin, milky, linguiform deposit at termination of penultimate (and sometimes antepenultimate) whorl; outer lip in side-view opisthocline and concave, without a distinct ancillid tooth; siphonal canal shallowly and asymmetrically notched; columella pillar rather wide, with 4–6 plicae, some fusing, its basal sinus forming a wide, shallow concavity; anterior and posterior fasciolar bands slightly declivous, anterior band usually subdivided by an inconspicuous groove; ancillid groove shallow to absent. Greyish-pinkish-brown, sutural band white with brownish-orange marks or brownish-orange with a white anterior margin, body whorl with a median row of blotches or squares, fasciolar bands tinged with buff. Maximum length 30 mm.

Description (shallower water bathymorph): Shell somewhat ovate-fusiform, with relatively broad base; b/l 0,40–0,43, a/l 0,44–0,52; body whorl moderately convex on both sides, shallowly concave at ancillid band and towards base of outer lip, greatest width of body whorl posterior to its median. Spire more or less orthoconoid, protoconch and 1st teleoconch whorl flat-sided, 2nd whorl with a strongly convex subsutural callus (sometimes initially occupying entire whorl), delimited from the slightly concave anterior part of whorl by a slight to distinct angle; penultimate whorl more evenly convex; anterior part of each whorl sometimes with 2–4 thin, weak spiral lirae; spire angle 35°–49°. Primary callus rather thin, glazing but not obliterating suture and exposing protoconch; surface only moderately glossy, being extremely finely microshagreened; secondary callus forming an inconspicuous, milky linguiform deposit at termination of penultimate whorl, merging with parietal callus.

Aperture oblanceolate, angularly rounded posteriorly, greatest width more or less median, outer lip opisthocline and distinctly concave in side-view, projecting bluntly at termination of ancillid groove; siphonal canal shallowly and asymmetrically notched; inner lip strongly and evenly concave, columella projecting angularly at entrance to siphonal canal; columella pillar rather wide, only moderately twisted, its termination blunt, basal sinus widely and shallowly concave; columella plicae 4–6, outer pair strongest, some fusing, intervals finely but distinctly microshagreened. Anterior fasciolar groove wide and shallow, anterior fasciolar band fairly narrow and slightly declivous, divided by a deep to slight groove (rarely trifid); posterior fasciolar band thick and often tumid, slightly declivous; ancillid groove very shallow, its band not depressed. Median zone of body whorl with fine, somewhat pliculate growth lines.

Ground colour greyish-pinkish-brown, subsutural callus cream-coloured with a series of orange-brown marks, to orange-brown with a cream anterior border, median zone with a second series of conspicuous orange-brown squares and chevrons adjacent to ancillid groove; fasciolar bands buff, columella pillar white.

Protoconch bluntly conical, of about 2 smooth whorls, white to pale buff, diameter about 1,20–1,30 mm (but base covered by callus).

Dimensions: 20,6 x 8,2 mm (holotype); largest shallow water paratype 22,7 mm (lip broken).

Operculum thin, filling aperture, translucent amber, nucleus eccentric, near termination.

Radula (Fig. 12): Typical of genus, rachidian with small median cusp and stronger side cusps, which on the outside of their base bear a variable number of small denticles; 66–74 rows of plates.

Foot flesh-coloured, speckled with blackish-brown.

Deep water form (250–450 m): Shell narrower (b/l 0,36–0,40, spire angle 25°–35°), spire whorls smooth and flattened throughout, secondary callus deposit thinner but more extensive, reaching antepenultimate whorl; sides of body whorl not concave anteriorly; columella plicae relatively strong; pattern fainter, ancillid band sometimes demarcated only by its pale coloration; slightly larger (length up to 30 mm).

Distribution: Outer continental shelf and upper slope of Transkei in 174–450 m, mainly on coarse sand and sponge rubble.

Type material (all NMSA: NMDP): Holotype C9760/T828, off Mtamvuna River, Natal/Transkei border (31°08,9'S: 30°17,1'E), 300–390 m, live sponges.

Shallow water form: Paratypes 1–4, C9707/T820, off Waterfall Bluff, 300 m, rocks, coarse sand, shell debris, living and dead; paratypes 5–8, C9284/T817, off Whale Rock, 200–210 m, sponge rubble, some sandstone rocks; paratype 9, C9352/T821, off Bulungulu River, 250–300 m, coarse sand, empty shell; paratype 10, C2117/T819, do, 250–270 m, muddy sand, old shell debris, empty shell; paratype 11, C3012/T816, off Nthlonyane River, 220-230 m, branching sponges, gorgonians, empty shell; paratypes 12–13, C6285/T825, off Nqabara Point, 250 m, live sponges, living and dead juveniles; paratypes 14–16, C6296/T814, off Shixini Point, 240 m, sponge rubble, some sandstone, empty shells; paratypes 17–21, C5421/T831, off Qora River, 196 m, sponges, live juveniles, dead adults; paratype 22, C4632/T822, off Qolora River, 174 m, sponge-rubble, empty shell.

Deep water form (all empty shells): Paratype 23, C9733/T827, off Port Grosvenor, 300-330 m, coarse sand; paratypes 24–25, C9727/T815, off Waterfall Bluff, 300 m, rocks, coarse sand; paratype 26, C9798/T818, same locality, 400–450 m, pebbles, fine sand; paratypes 27–28, C9852/T813, same locality, 230–250 m, sandstone, shell debris; paratypes 29–30, C8958/T824, off Mgazi River, 250 m, muddy sand.

Notes: Together with the following species, *Amalda lindae* is well characterised by its concave, rather retarded outer lip and a body whorl that bears a conspicuous submedian band of orange-brown spots or squares on a flesh-coloured ground (see under *A. scopuloceti* for distinguishing features). Observed variation in *lindae* would appear to be correlated with depth, individuals from the continental slope being more acuminate and differing in other details from shallower water specimens (see under description), although both forms occur at a depth of 250–300 m and intermediates are present (the holotype is one such annectent specimen). The apex of the shelf form of *A. lindae* often has a peculiar telescoped appearance, caused by the flattened initial whorls being abruptly succeeded by whorls with a convex subsutural zone. The deep water form shows superficial similarity to some members of the problematic genus *Turrancilla* von Martens, 1904; however, the latter differ in the fasciolar bands occupying the base as high as the mid-parietal region, in the absence of a colour pattern and ancillid groove, in the operculum having a terminal nucleus, and in the strongly arched rachidian plate to the radula.

A single worn and encrusted shell from S. E. of Neill Peak (Cunge) in 320–340 m

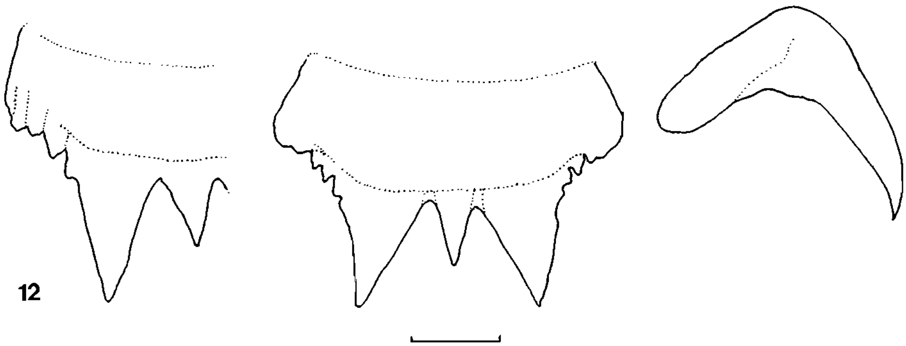


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Fig. 12 Radula of *Amalda lindae* sp. n. Rachidian and one lateral plate of holotype, with half-rachidian of paratype 5 to show variation in side denticles. Scale bar = 0,1 mm.

(NMSA E4031: NMDP) appears also to be referable here, and would indicate the range of *A. lindae* to extend northwards to southern Zululand.

Most specimens are juveniles or damaged adults, the outer lip being clearly susceptible to attack by calappid crabs.

Etymology: Named in honour of Mrs Linda Davis for her valued technical assistance.

Amalda scopuloceti sp. n.

Figs 13–14

Diagnosis: Shell fusiform-ovate, b/l 0,47, a/l 0,46–0,50, spire angle 44°–46°; spire orthoconoid, whorls flattened, primary spire callus a thin, smooth glaze, exposing protoconch, secondary callus forming a thin, translucent deposit; outer lip in side view opisthocline and concave, with distinct ancillid tooth; siphonal canal shallowly and asymmetrically notched; columella pillar rather wide, with 7–8 plicae, some fusing, becoming somewhat weaker towards inner margin, basal sinus forming a deep L-shaped notch; anterior and posterior fasciolar bands distinctly declivous, anterior band without a median angle or furrow; ancillid groove shallow to almost obsolete. Greyish-pinkish-brown, with a white sutural band bearing brownish-orange marks, body whorl with a median row of brownish-orange blotches. Maximum length 14,5 mm.

Description: Shell fusiform-ovate, with relatively broad base; b/l 0,47, a/l 0,46–0,50; body whorl strongly convex on left side, less so on right, profile not concave at ancillid band, outer lip evenly convex, greatest width of body whorl at its median. Spire more or less orthoconoid, moderately blunt, whorls flat-sided to slightly convex, not distinctly indented at suture, smooth; spire angle 44°–46°; primary callus very thin, glazing but not obliterating suture and exposing protoconch, transparent, except at suture where there is a narrow opaque band, bordered anteriorly by a slight groove; surface of callus glossy, without trace of microshagreen sculpture; secondary callus forming an inconspicuous, translucent deposit at termination of penultimate whorl, continuous with parietal callus.

Aperture oblanceolate, angularly rounded posteriorly, greatest width more or less median, outer lip opisthocline and distinctly concave in side-view, ancillid groove terminating in a distinct denticle; siphonal canal shallowly and asymmetrically notched; inner lip strongly and evenly concave, columella projecting angularly at entrance to siphonal canal; columella pillar rather wide, only moderately twisted, its termination blunt, its basal sinus unusually deeply notched; columella plicae 7–8, some fusing, becoming weaker towards inner edge; intervals finely but distinctly microshagreened. Anterior fasciolar groove wide and shallow, anterior fasciolar band fairly wide and declivous, not divided by a groove; posterior fasciolar band thick, equally declivous; ancillid groove very shallow to almost obsolete, its band not depressed. Median zone of body whorl with fine growth lines.

Colour greyish-pinkish-brown, subsutural callus cream-coloured with a series of orange-brown marks, median zone with a second series of conspicuous orange-brown squares and chevrons adjacent to ancillid groove; columella pillar white.

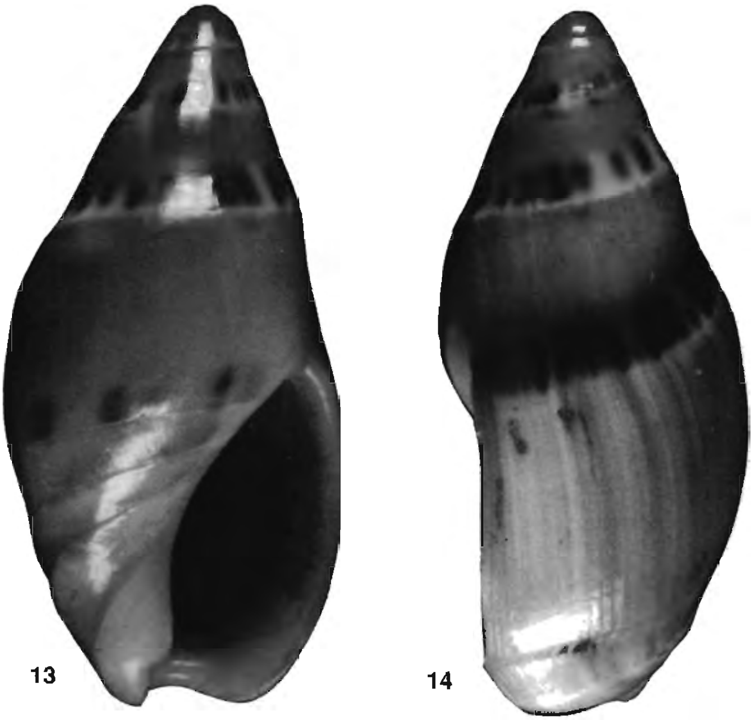
Protoconch bluntly conical, of about 2 smooth whorls, pale buff, diameter about 1,80 mm (but base covered by callus).

Dimensions: 12,1 x 5,7 mm (holotype); 12,8 x 6,0 mm (paratype).

Range: Inner continental shelf off central Transkei coast, empty shells in about 60–70 m.

Type material: Holotype NMSA C3107/T738, off Whale Rock (31°57,9'S: 29°14,3'E), 58–60 m, mixed sand and mud, dead. Paratype NMSA C1917/T739, off Rame Head, 70 m, mud, shell debris, dead.

Notes: *A. scopuloceti* closely resembles *A. lindae* in form and coloration, but has a columella pillar that bears a conspicuous and characteristic L-shaped notch on its apertural margin (basal sinus), a distinct labral denticle, a slightly larger but more depressed protoconch and a lower spire. There is also some resemblance to *A. obesa* (Sowerby, 1859), but that differs in its much lower spire, in its markedly smaller protoconch and in the very different shape of its columella pillar.



Figs 13–14. *Amalda scopuloceti* sp. n.: holotype, NMSA C3107/T738, 12,1 x 5,7 mm.

Etymology: Latin, *scopulus* (a rock) + *cetus* (a whale), alluding to the type locality.

Amalda cupedula sp. n.

Figs 15–16

Diagnosis: Shell *Bullia*-shaped with relatively broad base, b/l 0,38–0,41, a/l 0,43–0,52, spire angle 28°–37°; spire bluntly orthoconoid, whorls rather flattened, suture scarcely indented, primary spire callus a smooth, translucent glaze, exposing protoconch but forming a narrow opaque band at suture, secondary callus forming a thin, ill-defined deposit at termination of penultimate whorl; outer lip in side-view slightly opisthocline and rather flat; siphonal canal moderately deeply and symmetrically notched; columella pillar rather narrow, with 4 rather equal plicae; both fasciolar bands slightly declivous and very finely microshagreened, posterior band thinly calloused; no ancillid groove. Slightly translucent yellowish-white with opaque white sutural band bearing light brownish-yellow spots, and a similar but fainter series at mid-body whorl. Maximum length 16,4 mm.

Description: Shell *Bullia*-shaped, with relatively broad base and high spire; b/l 0,38–0,41, a/l 0,43–0,52; left side of body whorl moderately convex, right side much less so, greatest width of body whorl more or less median. Spire orthoconoid, whorls only very slightly convex and barely indented at suture, smooth; spire angle 28°–37°; primary callus very thin, glazing but not obliterating suture and exposing protoconch, transparent, except at suture where there is a narrow opaque band, bordered anteriorly by a fine groove; surface of callus glossy, without trace of microshagreen sculpture; secondary callus forming a thin, ill-defined deposit at termination of penultimate whorl.

Aperture oblanceolate, roundedly angular posteriorly, greatest width at about anterior third, outer lip slightly opisthocline and rather flat in side-view, siphonal canal rather deeply and asymmetrically notched; inner lip shallowly concave, flattening in parietal region, where the callus is rather thin and translucent; columella pillar rather narrow, its termination blunt, basal sinus widely and shallowly concave; columella plicae 4, more or less equal in strength, outer pair confluent, surface faintly microshagreened. Anterior fasciolar groove wide and shallow, anterior fasciolar band fairly broad and declivous, posterior fasciolar band much thinner but wider, slightly declivous, both bands very finely microshagreened; no ancillid groove. Median zone of body whorl with extremely fine growth lines.

Colour yellowish-white, anterior callus deposit and sutural band opaque white, the latter band with wide-set pale brownish-yellow spots, body whorl also with a row of faint, diffuse yellow spots at parietal level.

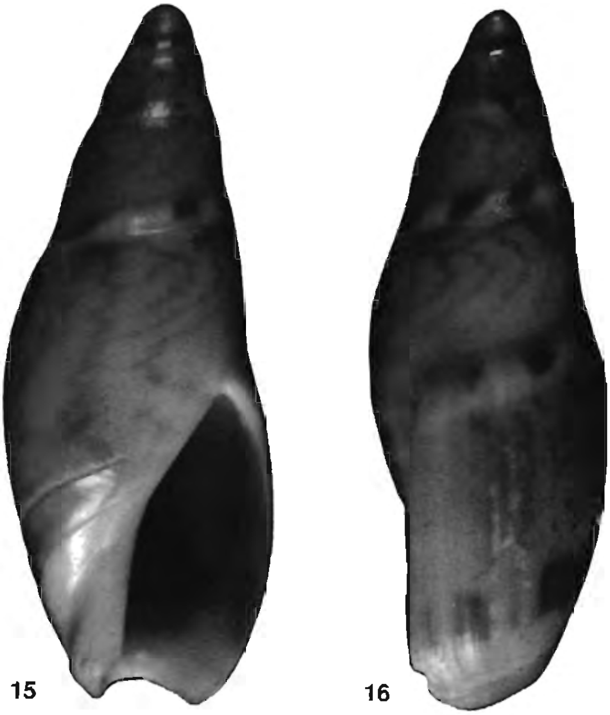
Protoconch bluntly conical, about 2 whorls, breadth 1,25 mm.

Dimensions: 12,0 x 4,8 mm (holotype); 16,4 x 6,3 mm (largest paratype).

Range: Outer continental shelf of Zululand, from Dog Point to Matigulu River mouth, empty shells mainly in 150–260 m, evidently extending deeper in the south.

Type material (all NMSA: NMDP, empty shells): Holotype D6448/T829, off Jesser Point (27°33,3'S: 32°43,1'E), 200 m, fine sand. Paratype 1, D7677/T807, off Dog Point, 250 m, medium sand. Paratype 2, D7577/T806, off Gobey's Point, 120–150 m, sandstone rubble, a fresh shell. Paratype 3, E3557/T805, off Leven Point, 250 m, coarse sand; paratypes 4-5, E4454/T804, same locality, 260 m, sponges, stones. Paratype 6, E3952/T803, off Cape Vidal, 200 m, sponge rubble. Paratype 7, E3291/T802, off Cape St Lucia, 160–180 m, coarse sand with mud. Paratypes 8–9, E4032/T801, off Neill Peak (Cunge), 320–340 m, sandy-mud. Paratype 10, E8863/T830, off Matigulu River mouth, 300 m, soft mud.

Notes: In general form this little species closely resembles certain members of the nassariid genus *Bullia*. It is evidently rare, all types being empty shells, only two in fresh condition. Of southern African species, it is most similar to the Agulhas Bank *Amalda jenneri* Kilburn, 1977, but differs in shape (in *jenneri* the base is distinctly contracted), in coloration and in the form of the columella pillar. In *cupedula* the columella pillar is narrower, longer (about 0,54 of length of inner lip, instead of 0,45) and has a shallower basal sinus than in *jenneri*. Of extralimital species, *A. cupedula* appears most similar to *A. acuta* Ninomiya, 1991, from West Australia; that is much narrower and lacks any trace of colour pattern.



Figs 15–16. *Amalda cupedula* sp. n.: holotype NMSA D6448/T829, 12,0 x 4,8 mm.

Etymology: Latin, *cupedula* = a dainty.

Amalda telaaraneae sp. n.

Figs 17–18

Diagnosis: Shell ovate-fusiform, b/l 0,44–0,49, a/l 0,50–0,56, spire angle 36°–46°; spire bluntly orthoconoid, whorls rather flattened, suture not indented, primary spire callus a thin, smooth glaze, exposing protoconch, and forming an opaque band at suture; secondary callus forming a thin deposit, with straight left border at termination of penultimate whorl; outer lip slightly opisthocline, very slightly concave posteriorly; siphonal canal rather deeply and symmetrically notched; columella pillar rather narrow, 4–6 plicae, becoming weaker towards inner margin; anterior fasciolar band distinctly declivous, posterior band thinly calloused, barely declivous; no ancillid groove. Very pale yellowish-brown with a faint network of brown lines, a series of orange-brown blotches at parietal level, region of posterior fasciolar band with spots or a diffuse band of orange-brown; suture bearing a white band with brownish-orange blotches. Maximum length 14,2 mm.

Description: Shell ovate-fusiform; b/l 0,44–0,49, a/l 0,50–0,56; left side of body whorl strongly convex, right side somewhat less so, greatest width of body whorl anterior to its median. Spire orthoconoid, blunt, whorls flat-sided to slightly convex, not distinctly indented at suture, smooth; spire angle 36°–46°; primary callus very thin, glazing but not obliterating suture and exposing protoconch, transparent, except at suture where there is a narrow opaque band, bordered anteriorly by a shallow groove; surface of callus glossy, without trace of microshagreen sculpture; secondary callus forming a thin deposit at termination of penultimate whorl, its left margin forming a straight line, continuous with parietal callus.

Aperture oblanceolate, roundedly angular posteriorly, greatest width anterior to median, outer lip in side-view slightly opisthocline and posteriorly very slightly concave, anteriorly convex, siphonal notch a fairly deep 'U'; inner lip moderately concave, slightly convex in parietal region, where the callus is rather thin and translucent; columella pillar rather narrow, basal sinus widely and shallowly concave; columella plicae 4–6, becoming weaker towards inner edge, outer pair confluent, surface faintly microshagreened. Anterior fasciolar groove wide and shallow, anterior fasciolar band fairly broad and distinctly declivous, posterior fasciolar band wider, thinly calloused, not distinctly declivous; no ancillid groove. Median zone of body whorl with extremely fine growth lines.

Protoconch narrowly domed, of about 2 whorls, breadth about 1,65 mm.

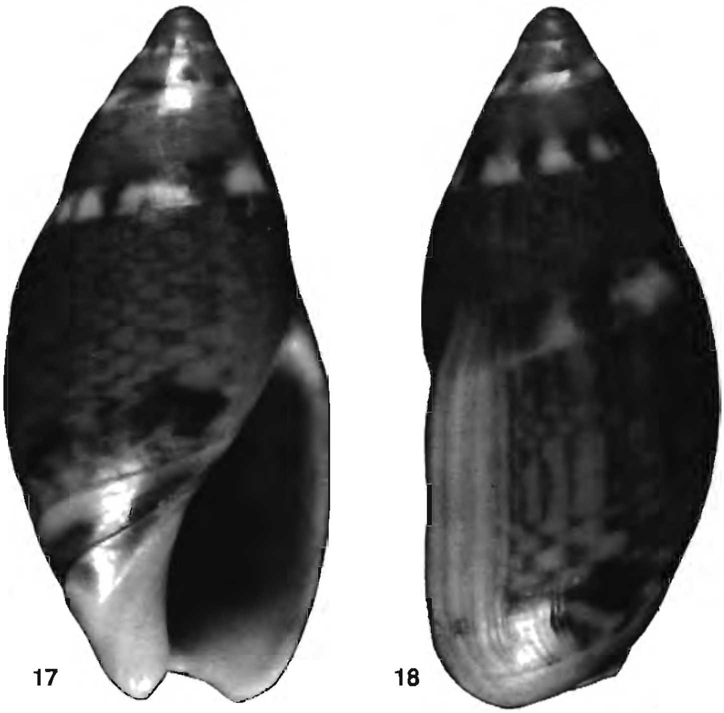
Ground colour very pale yellowish-brown, with a faint network of fine brown lines, sutural region with a narrow white band bearing brownish-orange blotches, body whorl with a row of large orange-brown blotches at parietal level and a diffuse band or row of spots in vicinity of posterior fasciolar groove.

Dimensions: 14,2 x 6,9 mm (holotype); 11,5 x 5,2 mm (smallest adult paratype).

Range: Continental shelf of western Transkei to southern Natal, empty shells dredged in 70–125 m, among sponge communities.

Type material (all NMSA: NMDP, empty shells): Holotype C4648/T832, off Qolora River mouth, Transkei (32°45,0'S: 28°35,3'E), 96 m, gorgonians, sponges. Paratype 1, S6106/T808, same data as holotype, juvenile; 2, C9471/T809, off Whale Rock, Transkei, 90 m, sponge rubble, coarse sand, some rocks; 3, D911/T817, off Port Edward, Natal, 125 m, sponges; 4, B3674/T810, off Port Shepstone, 70 m, eroded shell, sponge; 5, B8556/T812, off Park Rynie, 96 m, sponges.

Notes: *A. telaaraneae* somewhat resembles the smaller *A. jenneri* Kilburn, 1977, from the Agulhas Bank, but is broader, with coarser columella pleats and a distinct colour pattern. From the more tropical *A. cupedula* sp.n. it differs in its more ovate, less *Bullia*-like shape and reticulate colour pattern. *A. telaaraneae* closely resembles *A. obesa* (Sowerby, 1859) in colour pattern, but differs from that in the total absence of an ancillid groove and associated band, and in its much narrower and more bilaterally symmetrical form. From *A. scopuloceti* it differs in lacking either an ancillid groove or a deep basal notch to the columella pillar, and in colour pattern.



Figs 17–18. *Amalda telaaraneae* sp. n.: holotype, NMSA C4648/T832, 14,2 x 6,9 mm.

Etymology: Latin, *tela* (a web) + *aranea* (a spider), alluding to the faint, web-like reticulated pattern.

Amalda whatmoughi sp. n.

Figs 19–20

Diagnosis: Shell semifusiform, b/l 0,40, a/l 0,52, spire angle 40°; spire slightly cyrtoconoid, apex somewhat papilliform, whorls flattened, with basal angle overhanging suture, primary spire callus a thin, smooth glaze, exposing protoconch, secondary callus forming a fairly thick, translucent deposit, with straight left border at termination of penultimate whorl; outer lip in side view slightly opisthocline and almost straight; siphonal canal rather shallowly and asymmetrically notched; columella pillar rather narrow, with 6 plicae, becoming somewhat weaker towards inner margin; anterior fasciolar band distinctly declivous, posterior band with translucent callus, slightly declivous with weak median angle; no ancillid groove. Pale greyish-brown, apex and fasciolar bands tinged with brownish-orange, suture bearing a white band with brownish-orange blotches. Maximum length 14,5 mm.

Description: Shell semifusiform; b/l about 0,40, a/l about 0,52; left side of body whorl moderately convex, right side slightly less so, greatest width of body whorl anterior to its median. Spire slightly cyrtoconoid, each whorls flat-sided but with distinct basal angle, which slightly overhangs suture, smooth; apex slightly papilliform, spire angle about 40°; primary callus thin, glazing but not obliterating suture and exposing protoconch, transparent, except at suture where there is a narrow opaque band, bordered anteriorly by a shallow groove; surface of callus glossy, without trace of microshagreen sculpture; secondary callus forming a moderately thick but translucent, linguiform deposit at termination of penultimate whorl, its left margin forming a straight line, continuous with parietal callus.

Aperture oblanceolate, posterior angle roundedly acute, greatest width anterior to median, outer lip in side-view slightly opisthocline and almost straight, siphonal canal rather shallowly and asymmetrically notched; inner lip moderately concave, slightly convex in parietal region, where the callus is fairly thick but translucent; columella pillar rather narrow, basal sinus widely and shallowly concave; columella plicae 6, becoming somewhat weaker towards inner edge, several pairs confluent, surface faintly microshagreened. Anterior fasciolar groove wide and shallow, anterior fasciolar band fairly broad and distinctly declivous, posterior fasciolar band wider, callus translucent, slightly declivous and with weak median angle; no ancillid groove. Median zone of body whorl with fine growth lines, coarser in places.

Protoconch bluntly conical, of about 2,2 whorls, 1st whorl depressed; breadth 1,7 mm.

Ground colour pale greyish-brown, fasciolar bands with obscure blotches or streaks of brownish-orange, sutural region with opaque white callus band bearing brownish-orange blotches; protoconch brownish-orange.

Dimensions: 14,5 x 5,8 mm (holotype).

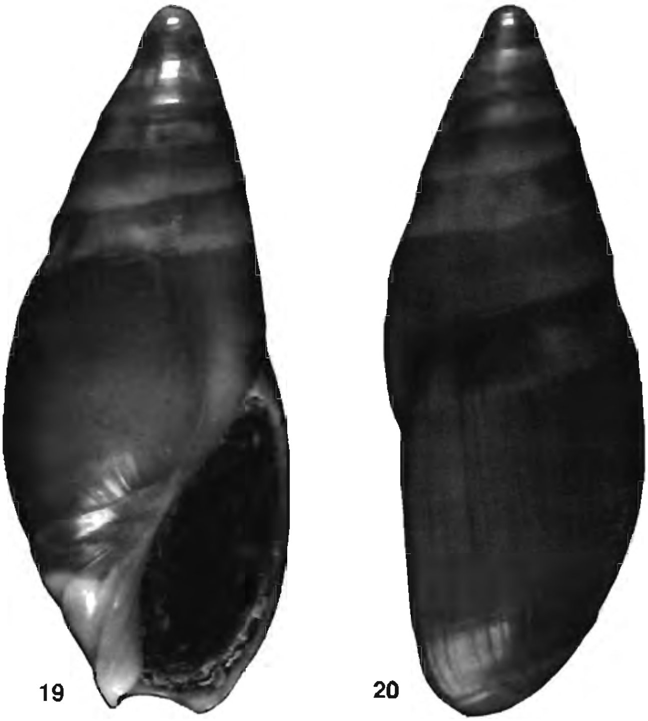
Operculum filling aperture and conforming to its shape, nucleus eccentric near anterior end, colour dark orange-brown, growth lines coarse.

Range: Known only from the type locality on the eastern Agulhas Bank, off Cape St Francis.

Type material: Holotype NMSA D4477/T736, Blue's Bank (34°11,6'S: 24°57.2'E), 50–60 m; specimen retaining operculum and dried body, don. S. Whatmough. Paratypes 1–2, NMSA S5754/T737, juveniles, same data, containing remains of pagurids.

Notes: Although only one adult and two juveniles have been examined, *A. whatmoughi* is distinctive among the smaller *Amalda* species known from South Africa in its basally angled whorls, which overhang the succeeding suture in slightly pagodiform manner. In this regard it is comparable with *Amalda pullarium* Ninomiya, 1991, from Queensland, but has a much lower spire than that and lacks spiral sculpture (although in a topotype of *pullarium*, received from the Australian Museum, this is only faintly visible).

I am indebted to Mr R. Tarr of the Sea Fisheries Research Institute for details concerning Blue's Bank.



Figs 19–20. *Amalda whatmoughi* sp. n.: holotype, NMSA D4477/T736, 14,5 x 5,8 mm.

Etymology: Named in honour of Mr Stephen Whatmough of Beaufort West, who sent me the material.

Amalda obesa (Sowerby, 1859)

Figs 21–22

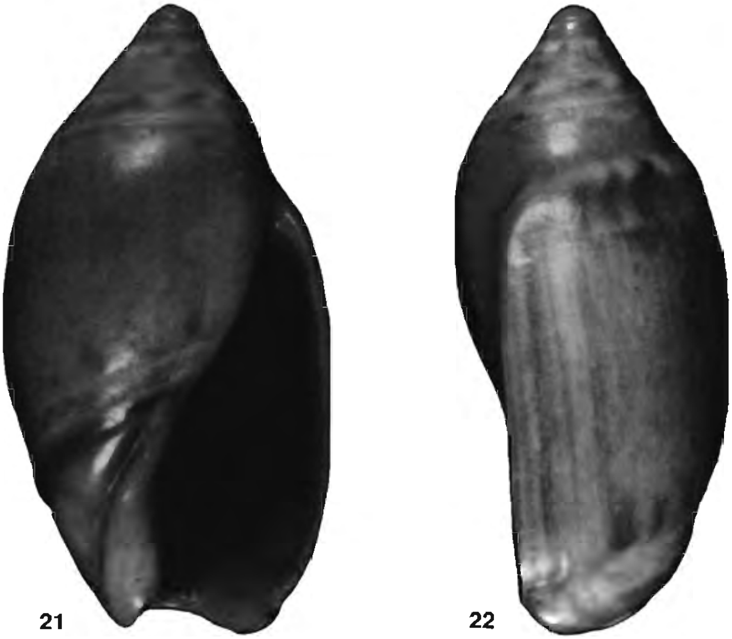
Ancillaria obesa Sowerby, 1859: 65, pl. 213, figs 44, 45. Type locality: 'Australia' [here emended to Port Elizabeth].
Ancilla obesa; Barnard, 1959: 62, Fig. 16f; Kensley, 1973: Fig. 636.
Amalda obesa; Kilburn & Rippey, 1982: 112, pl. 26, fig. 9.
Ancilla capensis Gray, 1865: 34 [**syn. n.**]. Type locality: South Africa.

Type material: Two syntypes of *A. obesa* BMNH 197940. Two syntypes of *A. capensis* are accessed as BMNH 51.11.17.19–20, purchased from Sowerby; the fresher (Figs 21-22) is here designated as lectotype; they are typical examples of *obesa*.

Range: False Bay to southern Mozambique, low tide sandflats to 23 m depth, empty shells to 110 m.

Selected locality records (all NMSA, unless otherwise stated): SOUTH-WESTERN CAPE: Buffels Bay, False Bay, in kelp bed, 2–8 m, living (E6090: D. Herbert); off Hawston, Hermanus, reef at about 23 m, living (E6396: D. Herbert). CAPE AGULHAS: Sand Knoll Point, 5 km west of Agulhas Lighthouse, beach drift (E6494: E. Roscoe). EASTERN CAPE: Port Alfred, beach drift (B4759: E. K. Jordan; 8613: R. K); East

London area, beach drift (numerous samples); off East London, 90 m, coarse sand, dead (B8242: NMDP). WESTERN TRANSKEI: E. of Kei River mouth, beach drift (C3483: R. K.); off Kei River, 85 m, sponge-rubble, dead (C4957: NMDP); Qolora River mouth (C3602: R. K.); off Qolora, 96 m, gorgonians, sponges, dead (C4648: NMDP); off Sandy Point, 90 m, coarse sand, calcareous debris, dead (C4511; NMDP); off Stony Point, 95 m, sponge rubble, dead (C4488: NMDP); Dwesa, beach drift (C5997: R. K.); off Mbashe River, 110 m, coral, sponge rubble, dead (C9268: NMDP); Nthlonyane (B1466: R. K.); Xora River mouth, beach drift (7385: R. K.); off Mncwasa Point, 68 m, sand, dead (C2887: NMDP), do, 68 m, sand, dead (C2888: NMDP). EASTERN TRANSKEI: between Lwandile and Mdumbi, beach drift (C254: R. K., R. Fregona). MOZAMBIQUE: between Inhaca Island and Zavora, *ex pisce* (G2640: C. Fernandes).



Figs 21–22. *Amalda obesa* (Sowerby, 1859): Lectotype of *Ancilla capensis* Gray, 1865, BMNH 1851.11.17.19, 12,3 x 6,4 mm.

Notes: In shell form, *A. obesa* shows little variation, although an occasional specimen is unusually ventricose (e.g. b/l 0,58–0,59 with spire angle 72°, against b/l 0,49–0,56 and spire angle 54°–69° in typical examples). The distribution of this chiefly Cape species is puzzling, as it appears to be largely absent from Natal but represented in southern Mozambique. Although Barnard cited material from 'Tongaat' [north coast of Natal], the only examples from Natal (or even Pondoland) in the NMSA collection is an unlocalised shell taken *ex pisce* somewhere off Natal. The Mozambique sample resembles typical individuals of *obesa* in form, although slightly more cylindrical (b/l 0,44–0,49, a/l 0,52–0,60, spire angle 47°–50°) and the inner lip is tinged with pinkish-purple.

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REFERENCES

Adams, H. & A. 1853-1854. *The genera of Recent Mollusca, arranged according to their organization.* London: John von Voorst. **1**: 1–484.

Barnard, K. H. 1958. Contributions to the knowledge of South African marine Mollusca. Part I. Gastropoda: Prosobranchiata: Toxoglossa. *Annals of the South African Museum.* **44**(4): 73–163, Figs 1–30, pl. 1.

Giles, E. & Gosliner, T. 1983. Primary type specimens of marine Mollusca (excluding Cephalopoda) in the South African Museum. *Annals of the South African Museum.* **92**(1): 1–52.

Gray, J. E. 1865. Olividae. *In: List of the Mollusca in the collection of the British Museum. Part II.* London: Taylor & Francis. 41 pp.

Iredale, T. 1936. Australian molluscan notes. No 2. *Records of the Australian Museum* **19**(5): 267–340, pls 20–24.

Kaicher, S. D. 1982. *Olividae* 1. *Card catalogue of worldwide shells.* St Petersburg, Florida: Kaicher. Pack **33**: nos 3347–3451.

Kensley, B. R. 1973. *Sea-Shells of southern Africa. Gastropods.* Cape Town: Maskew Miller. 236 pp.

Kilburn, R. N. 1975. Description of two new species of Amalda (Gastropoda: Olividae: Ancillinae) from the south-western Indian Ocean, with a note on *Amalda similis* (Sowerby, 1859). *Veliger* **17**(3): 229–232.

——— 1977. Descriptions of new species of *Amalda* and *Chilotygma* (Gastropoda: Olividae: Ancillinae) with a note on the systematics of *Amalda*, *Ancillus* and *Ancillista*. *Annals of the Natal Museum* **23**(1): 13–21.

——— 1981. Revision of the genus *Ancilla* Lamarck, 1799. *Annals of the Natal Museum* **24**(2): 349–463.

Kilburn, R. N. & Rippey, E. 1982. *Sea shells of southern Africa.* Johannesburg: Macmillan. xi + 249 pp, 46 pls.

Lamarck, J. B. P. A. de M. 1799. Prodrome d'une nouvelle classification des coquilles. *Mémoires de la Société d'Histoire Naturelle de Paris* **1**: 63–91.

Perry, G. 1811. *Conchology or The natural history of shells, containing a new arrangement of the genera and species, illustrated by coloured engravings executed from the natural specimens, and including the latest discoveries.* London: W. Miller. 4 pp., 61 pls.

Reeve, L. C. 1864. Monograph of the genus *Ancillaria. Conchologia Iconica* **15**: pls 1–12. London: Lovell Reeve.

Smith, E. A. 1906. On South African marine Mollusca, with descriptions of new species. *Annals of the Natal Museum* **1**(1): 19–71, pls 7–8.

Sowerby, G. B. 1859. Monograph of the genus *Ancillaria. Thesaurus Conchyliorum.* London: Sowerby. **3**(1): 57–68, pls 211–214.

——— 1903. Mollusca of South Africa. *Marine Investigations in South Africa.* **2**: 213–232.

Thiele, J. 1925. Gastropoda der Deutschen Tiefsee-Expedition, 1898–1899. II. *Wissenschaftliche Ergebnisse der deutsche Tiefsee-Expedition 'Valdivia'* Jena: Gustav Fischer. **17** (2): 36–382, pls 1–34.

Tomlin, J. R. Le B. 1921. Six new marine shells from South Africa. *Journal of Conchology* **16**(7): 215–217, pl. 8.

Von Martens, E. 1902. Einige neue Arten von Meer-Conchylien aus den Sammlungen der Deutschen Tiefsee-Expedition. *Sitzungsberichte Gesellschaft naturforschender Freunde Berlin* **9**: 37–244.

——— 1904. Die beschalten Gastropoden der deutschen Tiefsee-Expedition 1898–1899. A. Systematisch- geographischer Teil. *Wissenschaftliche Ergebnisse der deutsche Tiefsee-Expedition 'Valdivia'*. Jena: Gustav Fischer. **7**: 1–146, 30 pls.

WEINKAUFF, H. C. 1878. *Ancillaria. In Systematische Conchylien Cabinet von Martini und Chemnitz. Neu herasgegeben von H. C. Küster*. Nürnberg: Bauer & Raspe. **5**(1a): 1–44, pls 1–12.

YEN, TENG-CHIEN. 1942. A review of Chinese gastropods in the British Museum. *Proceedings of the malacacological Society of London* **24**: 170–289, pls 11–28.

Dare received: 11 January 1993.